a) $P = I^2 R$ b)

/2 $15W = I^2$

12.3Ω

$I = 1.1A$

b) $\mathcal{E}mf = I R_T = 14V$

/1 $1.1(13.1)$

/2 c) $Q = It = 1.1 \times 60 = 66C$

/2 /2

$\frac{1}{R_{T_{23}}} = \frac{1}{R_2} + \frac{1}{R_3}$ $\frac{1}{20} + \frac{1}{30}$ $R_{T_{23}} = 12\Omega$

1 $R_T = 32\Omega$

$I = \frac{V}{R_T} = \frac{3V}{32\Omega} = 0.094A$

/3 $V_1 = I R_1 = 1.875V$

$V_3 = 3V - 1.875 = 1.1V$

$I_3 = \frac{V_3}{R_3} = \frac{1.1V}{30\Omega} = 38mA$